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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/574,692	05/17/2000	Peter Wagner	24406-0006	8762

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EXAMINER

CHIN, CHRISTOPHER L

ART UNIT PAPER NUMBER

1641

DATE MAILED: 09/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/574,692

Applicant(s)
Wagner et al

Examiner
Chris Chin

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1641



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 28, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-57 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a.) The status of the parent application cited on page 1 of the specification needs to be updated.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 112

2. Claims 46-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 46 is vague. In line 8, the recitation of "adapted for" is not clear as to how the functional group has been modified for covalent attachment to a polynucleotide.

Claim 55 is vague and indefinite. The claim is not clear as to what "molecular species" is being referred to.

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Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 46-52, 54, 56, and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Barrett et al.

Barrett et al (U.S. Patent 5,252,743) discloses methods and compositions for immobilizing anti-ligands, such as antibodies and oligonucleotides, on predefined regions of a surface of a solid support. The methods involve attaching to the surface a caged binding member which has a relatively low affinity for other potential binding species. The caged binding member is convertible, i.e. by irradiation, to a binding member ultimately capable of immobilizing a desired anti-ligand. Predefined regions of the surface are selectively irradiated to convert the caged binding members in the predefined regions to activated binding members. The desired anti-ligands subsequently can be immobilized on the activated regions of the surface (col. 2, lines 38-52 and col. 5, lines 14-67). The spatial addressability afforded by the method allows the formation of patterned surfaces having preselected reactivities. By using lithographic techniques, light can be directed to relatively small and precisely known locations on the surface. It is therefore possible to activate discrete, predetermined locations on the surface for attachment of

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anti-ligands (col. 2, lines 53-61). The solid substrate can be of any shape and be made of materials such as silicon dioxide. Preferably the surface of the substrate will have reactive groups. The surface of the substrate is preferably provided with a layer of crosslinking groups. The crosslinking groups are preferably of sufficient length to permit binding members on the surface to interact freely with compounds in solution. Crosslinking groups may be selected from any suitable class of compounds, for example, aryl acetylenes, ethylene glycol oligomers containing 2-10 monomer units, diamines, diacids, amino acids, or combinations thereof (col. 8, lines 49-60). Crosslinking groups may be attached to the surface by a variety of methods which are readily apparent to one skilled in the art. Crosslinking groups may be attached to the surface by siloxane bonds formed via reactions of crosslinking groups bearing trichlorosilyl or trisalkoxy groups with hydroxyl groups on the surface of the substrate. Preferably, the crosslinking group used with a glass surface is N-BOC-aminopropyltriethoxy silane (col. 8, line 61, to col. 9, line 1).

5. Claims 46-52, 54, and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Sundberg et al.

Sundberg et al (U.S. Patent 5,624,711) disclose an array of proteins comprising a plurality of protein or oligonucleotide patches immobilized on known regions of a substrate wherein the surface of the substrate comprises a monolayer of a molecule of the formula X-R-Y where R is a spacer, X is a functional group that binds R to the surface, and Y is functional group for binding protein to the monolayer (col. 2, lines 45-46 and Figures 1-2). The substrate can be glass, silicon,

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silicon oxide, polymers, metals, or membranes (col. 11, lines 29-36). X may be siloxane bonds, aminoalkyltrialkoxysilanes, aminoalkyltrichlorosilanes, hydroxyalkyltrialkoxysilanes, hydroxyalkyltrichlorosilanes, carboxyalkyltrialkoxysilanes, polythyleneglycols, aminopropylsilanes or combinations thereof (col. 13, lines 35-37). R may be hydrocarbon chains of 2-50 atoms (col. 12, lines 24-26 and lines 47-54). Y may be biotin, azabiotin, dethiobiotin, iminobiotin, epoxy, amide, ester, isothiocyanate, isocyanate, amino, hydroxy, or thiol (col. 12, lines 30-41 and Figures 1-2).

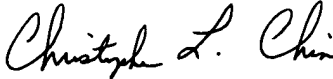
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris Chin whose telephone number is (703) 308-3991. The examiner can normally be reached on Monday-Thursday from 10:00 am to 7:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached on (703) 305-3399.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

cchin/cc
September 8, 2003


CHRISTOPHER L. CHIN
PRIMARY EXAMINER
GROUP 1800/641